REMARKS

Status of the Claims

The present application has been reviewed in light of the Office Action dated July 19, 2007. Claims 1 and 4-19 are presented for examination, of which claims 1 and 19 are in independent form. Claim 1 has been amended solely to define more clearly what Applicants regard as their invention. Favorable reconsideration is requested.

Applicants note with appreciation the indication that claim 19 has been allowed and that claims 5, 7, and 9 include allowable subject matter and would be allowable if rewritten in independent form. Applicants respectfully decline to so rewrite claims 5, 7 and 9 at this time, for at least the reason that their base claim is believed to be allowable, as discussed below.

Prior-Art Rejections

Claims 1, 4, 6, 8, 10-14, and 16-18 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,435,486 ("Maier") in view of U.S. Patent No. 6,622,996 ("Mayerböck"). Claim 15 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Maier in view of Mayerböck, and further in view of U.S. Patent No. 5,301,414 ("Gautheron").

Claim 1 is directed to a hydroelastic joint for assembling pieces of a structure and for damping vibrations transmitted between the pieces. The joint includes an external reinforcement, an intermediate reinforcement, an internal reinforcement, and an assembly forming a hydroelastic spring. The assembly is disposed between the external and intermediate reinforcements in order to permit a relative transverse displacement between the external and intermediate reinforcements. The assembly includes a first elastically deformable element shaped to delimit between the external and intermediate reinforcements a sealed volume containing damping fluid.

The joint further includes a plurality of longitudinal bosses separating the sealed volume into a plurality of chambers, and additionally includes a second elastically deformable element disposed between the intermediate reinforcement and the internal reinforcement. The second elastically deformable element forms an elastic spring and has a longitudinal dimension less than a corresponding longitudinal dimension of the first elastically deformable element, in order to limit a transverse deformation of the first elastically deformable element during a relative tilting of the longitudinal axes of the external and internal reinforcements about at least one transverse tilting axis.

The longitudinal dimension of each of the first and second elastically deformable elements are defined as an axial dimension of a portion that substantially fills a radial space between corresponding ones of the reinforcements. The intermediate reinforcement is disposed between the first and second elastically deformable elements, such that the first and second elastically deformable elements adhere on a central portion with a constant cross-section of the intermediate reinforcement, and such that the second elastically deformable element adheres on a central portion with a constant cross-section of the internal reinforcement.

One of the notable features of claim 1 is that the first and second elastically deformable elements adhere on a central portion with a constant cross-section of the intermediate reinforcement, and that the second elastically deformable element adheres on a central portion with a constant cross-section of the internal reinforcement.

Another notable feature of claim 1 is that the second elastically deformable element forms an elastic spring. Support for this feature of claim 1 is found in the specification at paragraph [0057].

A further notable feature of claim 1 is that the sealed volume, which is delimited between the external and internal reinforcements, is separated into the plurality of chambers by the plurality of longitudinal bosses.

Maier is understood to relate to a hydraulically damping rubber support having an outer elastically deformable element (outer spring assembly 5 of Fig. 1 or assembly 4 of Fig. 2) and an inner elastically deformable element (inner spring assembly 4 of Fig. 1 or assembly 5 of Fig. 2). Referring to Fig. 1, the rubber support 20 includes an inner tubular part 1, an outer tubular part 2 and a further tubular part 3 arranged concentrically within the inner tubular part 1. The outer 5 and inner 4 spring assemblies include recessed portions, 6a and 6b, respectively, which function as stops during radial loading. In addition, the outer and inner spring assemblies include damping-medium-filled chambers, 8 and 7, respectively and thus both assemblies, 5 and 4, feature hydraulic elastic springs. Furthermore, each assembly includes flow connectors, 9a and 9b. These flow connectors serve to connect the chambers of each assembly in a restricted or unrestricted manner. See Maier, col. 2, lines 52-55.

According to Applicants' understanding, because of flow connector 9a, Maier's outer spring assembly 5 cannot be adhered to the inner tubular part 1 with a constant cross-section. Correspondingly, because of flow connector 9b, Maier's inner spring assembly 4 cannot be adhered to the further tubular part 3 with a constant cross-section. Moreover, because of stop 6b, which is a recessed portion of assembly 4, Maier's inner spring assembly cannot be adhered to the inner tubular part 1 with a constant cross-section. This is believed to teach away from having first and second elastically deformable elements that adhere on a central portion with a constant cross-section of an intermediate reinforcement, and a second elastically deformable element that adheres on a central portion with a constant cross-section of an internal reinforcement, as claimed in claim 1.

Maier also fails to show or suggest an inner spring assembly 4 having an elastic spring. Rather, Maier teaches an inner spring assembly 4 having a hydroelastic spring. Instead, Maier teaches a hydroelastic joint including a first hydroelastic spring disposed between the external reinforcement and the intermediate reinforcement and a second hydroelastic spring disposed between the intermediate reinforcement and the internal reinforcement. In Fig. 3, Maier indicates that optimal radial deflection and support are achieved by the hydraulic damping of the first assembly coupled with the hydraulic damping of the second support. See Maier, col. 3, lines 24-29.

It is alleged in the Office Action that Maier teaches a second elastically deformable element with a longitudinal dimension less than a corresponding dimension of the first elastically deformable element. Applicants respectfully disagree. It is respectfully submitted that Maier does not teach or suggest that the second elastically deformable element has a longitudinal dimension less than a corresponding dimension of the first deformable element and a skilled artisan could not deduce from the drawings that rubber part 4 has a smaller longitudinal dimension than rubber part 5.

Applicants further note that Maier fails to show or suggest a longitudinal boss, as claimed in claim 1. It is alleged in the Office Action that the stops 6a and 6b of Maier correspond to the longitudinal boss of claim 1. Applicants respectfully submit, however, that the stops 6a and 6b do not separate a sealed volume into a plurality of chambers; rather these stops are recessed portions that only contact the outer tubular part 2 or inner tubular part 1 under appropriate loading. See Maier, col. 3, lines 7-18.

Mayerböck fails to remedy the deficiencies of Maier. Mayerböck relates to a hydraulically damping rubber bearing and was cited in the Office Action for allegedly disclosing "a hydroelastic joint having an upper and lower sealed volume chamber, wherein each sealed

chamber is provided with a longitudinal boss separating the sealed volume chamber into a plurality of chambers." Applicants respectfully disagree with this allegation.

As understood by Applicants, Mayerböck fails to provide any teaching or suggestion whatsoever of a longitudinal boss that separates a sealed volume into a plurality of chambers. Applicants note that nowhere in the Office Action is there an indication of where in Mayerböck such a boss is disclosed. However, Applicants understand Mayerböck to show a channel 14 through which damping medium flows from chamber 12 to chamber 13. See Mayerböck, col. 2, lines 37-42. This channel does not separate a sealed volume into a plurality of chambers; rather it represents a continuous chamber together with chambers 12 and 13, wherein the continuous chamber includes two large spaces 12 and 13 connected via a smaller space 14. In other words, the channel 14 of Mayerböck, which clearly is a connecting passageway, cannot correspond to a longitudinal boss, which serves to separate the sealed volume into a plurality of chambers, as claimed in claim 1. Applicants have found nothing in Mayerböck that can be understood to disclose or suggest the use of a longitudinal boss that separates a sealed volume into a plurality of chambers, as claimed in claim 1. (Applicants note that a longitudinal boss was among the allowable subject matter of claim 7.)

Applicants thus respectfully submit that any hypothetical combination of Maier and Mayerböck, assuming such combination would even be permissible, would fail to teach numerous elements of claim 1. Accordingly, claim 1 is believed to be patentable over Maier and Mayerböck and therefore respectfully request withdrawal of the rejection under 35 U.S.C. § 103(a).

The other rejected claims in the present application depend from claim 1 and therefore are believed patentable for at least the reasons discussed above. Because each

dependent claim also is deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, which are believed clearly to place the present application in condition for allowance, Applicants respectfully request favorable reconsideration and an early passage to issue of this application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

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